INFECTION REPORTING FOR CENTRAL LINE-ASSOCIATED BLOODSTREAM INFECTIONS

Central line-associated bloodstream infections (CLABSI) are one of the most deadly and costly hospital-associated infections (HAIs) in the U.S. This report presents all laboratory confirmed bloodstream infections in a patient with a central line[1] at the time of, or within 48-hours prior to, the onset of symptoms. The infection must not be related to an infection from another site.

All acute care Vermont hospitals with adult, pediatric, or neonatal intensive care units are required to report data on CLABSIs to the CDC National Healthcare Safety Network (NHSN) System. One way to tell whether a hospital is doing a good job is to compare the number of infections that occurred to the number of infections that would be predicted based on the national baseline. The standardized infection ratio (SIR)[2] is a summary measure that can be used to make these comparisons and track infections over time. This report compares the number of CLABSIs among Vermont hospitals to those that would be predicted in the same time period based on the national average.

Some Vermont hospitals do not have Intensive Care Units ICUs that meet the CDC definition for reporting CLABSIs and therefore are excluded from this report. Other hospitals that do meet the CDC definition for reporting CLABSI have insufficient numbers of central line days to be accurately compared to the U.S. national baseline. These hospitals are not included in the table below, but data on their number of central line days and associated infections are presented on the following pages.

When choosing where to get your health care, the number of infections reported by a hospital is only one consideration. The advice of your physician, the hospital's and specialist's experience with the type of care you need, and other factors unique to your situation should be considered as well.

Hospital	Hospital performance October 2013 – September 2014
University of Vermont Medical Center[3]	Better than U.S. national baseline
Rutland Regional Medical Center	No different than U.S. national baseline
Vermont Total	Better than U.S. national baseline

[1] A central line for purposes of surveillance for CLABSI is defined as an intravascular catheter that terminates at or close to the heart or in one of the great vessels which is used for infusion, withdrawal of blood, or hemodynamic monitoring. The following are considered great vessels for the purpose of reporting CLABSI and counting central-line days in the NHSN system: aorta, pulmonary artery, superior vena cava, inferior vena cava, brachiocephalic veins, internal jugular veins, subclavian veins, external iliac veins, common iliac veins, femoral veins, and in neonates, the umbilical artery/vein.

[2] The SIR is calculated by dividing the number of observed infections by the number of "expected or predicted". The number of predicted infections is determined using logistic regression modeling using the national data as a baseline reference population. The SIR is only calculated if the number of "predicted" HAIs exceeds 1.0. When the number of predicted infections is less than 1.0, the number of surgeries performed is too low to calculate a precise SIR and comparative statistics. For more information go to: http://www.cdc.gov/HAI/progress-report/index.html.

[3] The University of Vermont Medical Center was known as Fletcher Allen Health Care during this reporting period.

Central Line-Associated Bloodstream Infections October 1, 2013 through September 30, 2014

Hospital	Number of Central Line Days	Number of Infections	Standardized Infection Ratio (SIR)[4]	95% Confidence Interval (CI) for SIR[5]	Hospital performance compared to NHSN national baseline
Brattleboro Memorial Hospital	122	0	NA		
Central Vermont Medical Center	451	0	NA		
North Country Hospital	26	0	NA		
Northeastern Vermont Regional Hospital	47	0	NA		
Rutland Regional Medical Center	767	1	0.869	0.043 , 4.287	No different
Southwestern Vermont Medical Center	270	0	NA		
University of Vermont Medical Center[6]	8,195[7]	9	0.451	0.220, 0.829	Better
Vermont Total	**9,878**	**10**	**0.445**	**0.226, 0.794**	**Better**

NA (not applicable): ICU patients had too few central line days to calculate a reliable SIR. When SIR cannot be calculated, a comparison to national data is not possible.

NOTE: The following hospitals do not have ICUs that meet the CDC definition for reporting central line-associated bloodstream infections and therefore are excluded from this report: Copley Hospital, Gifford Medical Center, Grace Cottage Hospital, Mount Ascutney Hospital and Health Center, Northwestern Medical Center, Porter Hospital, and Springfield Medical Center.

[4] A SIR equal to 1.0 means the observed number of infections is equal to the number of infections one would predict based on national experience; A SIR higher than 1.0 means that the infection rate is higher (worse) than one would predict based on national experience; A SIR less than 1.0 means the infection rate is lower (better) than one would predict based on the national experience.

[5] To assess whether the difference between the observed number of infections is significantly different from the predicted number of infections, a 95% confidence interval for the SIR is calculated. The confidence interval for a hospital's SIR is the range of possible SIRs within which there is 95% confidence that the real SIR for that hospital lies, given the number of infections and procedures that were observed for that hospital.

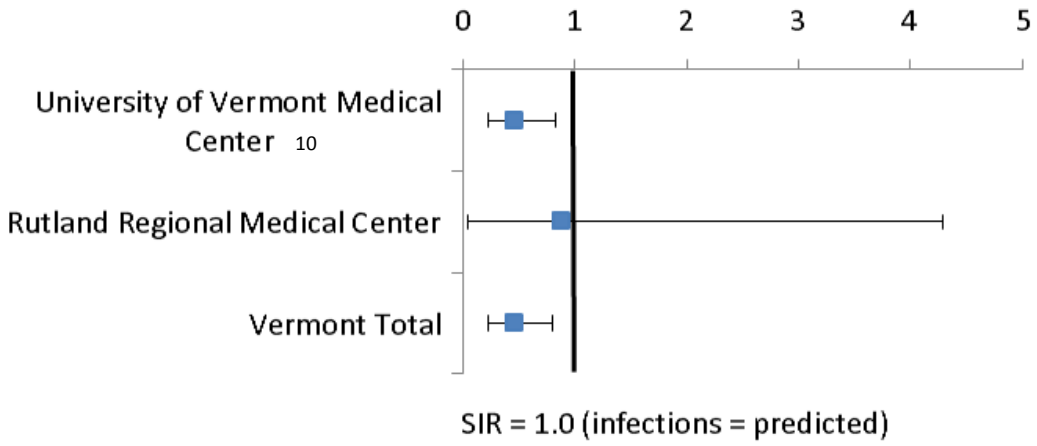
- If the 95% confidence interval contains the value of 1.0, the observed number of infections will be considered "similar" (not significantly different) from the expected.
- If the SIR is less than 1.0 and the 95% confidence interval does not include 1.0, the hospital's infections are significantly "lower" than expected.
- If the SIR is greater than 1.0 and the 95% confidence interval does not include 1.0, the hospital's infections are significantly "higher" than expected.

[6] The University of Vermont Medical Center was known as Fletcher Allen Health Care during this reporting period.

[7] Surgical, medical, neo-natal, and pediatric ICU units are included.

Central Line-Associated Bloodstream Infections October 1, 2013 through September 30, 2014

SIR[8] and 95% confidence intervals[9] (lower values are better)



[8] A SIR equal to 1.0 means the observed number of infections is equal to the number of infections one would predict based on national experience; A SIR higher than 1.0 means that the infection rate is higher (worse) than one would predict based on national experience; A SIR less than 1.0 means the infection rate is lower (better) than one would predict based on the national experience.

[9] To assess whether the difference between the observed number of infections is significantly different from the predicted number of infections, a 95% confidence interval for the SIR is calculated. The confidence interval for a hospital's SIR is the range of possible SIRs within which there is 95% confidence that the real SIR for that hospital lies, given the number of infections and procedures that were observed for that hospital.

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- If the SIR is greater than 1.0 and the 95% confidence interval does not include 1.0, the hospital's infections are significantly "higher" than expected.

[10] The University of Vermont Medical Center was known as Fletcher Allen Health Care during this reporting period.